UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,278	07/22/2003	C. James MacLennan	MS1-3547US	7469

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EXAMINER
LU, CHARLES EDWARD

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 June 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-35</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>6/25/2007</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. This Action is in response to the Amendment dated 6/25/2007. Claims 1-35 are pending. Claims 1-35 are rejected. Applicant's request for interview is noted, but an interview is not necessary at this time because there are no outstanding issues that can be resolved quickly over the phone.

Response to Amendment/ Response to Arguments

2. As to the prior art rejections, Applicant's arguments are drawn to the amended claims. Applicant's amendment to all of the claims necessitates the new grounds of rejection presented below. The previous prior art rejections are withdrawn.

Claim Objections

3. Due to amendment, claim 30 is objected to because of the following informalities:

As to claim 30, the components should be interconnected. The data sets should be connected to a component such as the processing unit or the system memory.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. **Due to amendment, claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

As to all independent claims, the limitation "creating one or more mining models...created from the same mining structure" is unclear if there is only one mining model. A comparison cannot be performed without explicitly requiring a second model.

As to claim 19, (p. 14, line 4), "the desired data set" lacks antecedent basis.

Dependent claims are rejected because they depend from the rejected independent claims.

Claims 3-5 are unclear for similar reasons as stated above for the independent claims.

As to claim 7, it is unclear as to how a comparison can be done with only one model, or with what the mining model is compared.

The above list is not exhaustive. The dependent claims should be carefully checked for errors similar to the above.

The claims have been given their broadest reasonable interpretation.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1, 3-10, 12-18, 30, and 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (U.S. Patent 6,301,579) in view of Ushijima et al (U.S. Patent 5,890,150).**

As to claim 1, Becker teaches the following claimed subject matter:

Accessing one or more data sets (col. 10, l. 30);

Retrieving data from a data set (col. 10, ll. 29-44);

Creating one or more mining structures using data retrieved from the data set, wherein the creating comprises:

Defining one or more mining structure variables (col. 10, l. 44 – col. 11, l. 40).

Defining one or more acts of processing to be performed on the retrieved data, wherein the one or more acts may be performed on a subset of the retrieved data (see above and col. 29, ll. 16-48).

Performing processing on the retrieved data, wherein processing occurs only on the data determined necessary per the definitions in the mining structure (see above).

Storing results of processing the data (see above and table 1).

Ascertaining the existence of one or more mining structures (data files or training sets) available for mining model creation (this must happen in order to create a decision table classifier from the data file, see col. 11, ll. 46-50).

Creating one or more mining models (decision table classifier data structure), wherein one of the one or more mining models created from a mining structure is not equal to another of the one or more mining models created from the same mining structure (see "ii. Creating a data structure," col. 11, l. 41).

Providing results of the creation of the one or more mining models (table 1-3, see "iv. Example Visualization of a Decision Table Classifier," col. 15, l. 53).

Becker teaches a data set, as described above, but does not expressly teach a "data set storing data organized as cases, each case comprising a key value and a value in one or more variables."

However, Ushijima teaches a data set storing data organized as cases (records), each case comprising a key value and a value in one or more variables (fig. 3, col. 6, ll. 39-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Becker, such that the data set is organized in record format with a key and a value in one or more variables, since one of ordinary skill in the art would have been motivated to facilitate data organization.

Claims 3-5 are rejected because the limitation of "one mining structure" was met in the parent claim.

As to claim 6, Becker as applied above further teaches wherein links between the one or more mining models and the mining structure from which each mining model was created are stored, and where by changes in one or more mining structures are simultaneously reflected in each of the one of more mining models created from each of the changed mining structures (col. 29, l. 49 – col. 50, l. 2).

As to claim 7, Becker as applied above further teaches evaluating two or more mining structures created using data from the same data set by comparing at least one

mining model created from each of the two or more mining structures, and providing the results of the comparison (col. 29, ll. 13-47).

As to claim 8, Becker as applied above further teaches providing two or more mining models created from the same mining structure for comparison (col. 13, ll. 1-63).

As to claim 9, Becker as applied above further teaches accepting a drill through query for specified data and providing said specified data (col. 9, ll. 49-53).

Claims 10, 12-18, 30 and 32-35 are drawn to substantially the same subject matter as claims 1 and 3-9 discussed above.

6. Claims 2, 11 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Becker (U.S. Patent 6,301,579) in view of Ushijima et al (U.S. Patent 5,890,150) further in view of Smith et al (U.S. Patent 6,591,274).

As to claim 2, Becker and Ushijima as applied above teach mining structures, but do not expressly teach "serving as first class objects in a database."

However, Smith teaches serving as first class objects in a database (col. 4, ll. 5-45).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Becker and Ushijima, such that the mining structures serve as first class objects in a database. The motivation would have been to facilitate accessing data from a data store, as taught by Smith (col. 1, l. 48 – col. 2, l. 20).

Claims 11 and 31 are drawn to substantially the same subject matter as claim 2 discussed above.

7. Claims 19 and 21-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Becker (U.S. Patent 6,301,579) in view of Ushijima et al (U.S.

Patent 5,890,150) further in view of Browning et al (U.S. Patent 5,903,302).

Claim 19 is drawn to substantially the same subject matter as claim 1 discussed

above, in addition to "wherein when a mining model creation function detects that no

mining structure utilizing data from the desired data set is currently available, creating

one or more mining models includes creating the mining structure." This limitation is

understood as being similar to "if a necessary file is missing, creating the file before

continuing processing."

Becker as applied above teaches that a mining model is created using a mining

structure (see e.g., col. 12, ll. 1-2). The mining structure is a data file that serves as a

base level of records for the mining model (col. 11, ll. 46-50). Thus, the mining model

could depend on whether the data file was created, and if the data file cannot be found,

a mining model could not be created.

Browning teaches a function that detects a missing file, and if, for whatever

reason, a file cannot be found, recreating the file automatically (col. 5, ll. 28-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Becker/Ushijima, such that a detection function

of Browning would detect if the data file of Becker is missing, and if the file is missing,

the file will be recreated. As such, Becker could continue processing the mining model

(see above). This feature would meet the claimed limitations. The motivation would

have been to facilitate smooth operation of the system and to ensure that the system

possesses all the data necessary for successful operation, as known to one of ordinary

skill in the art.

Claim 25 is drawn to substantially the same subject matter as claim 19,

discussed above.

Claims 21-24 and 26-29 are drawn to substantially the same subject matter as

claims 3-6, further taught by Becker as discussed above.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Becker (U.S. Patent 6,301,579) in view of Ushijima et al (U.S. Patent 5,890,150)

further in view of Browning et al (U.S. Patent 5,903,302), further in view of Smith

et al (U.S. Patent 6,591,274).

As to claim 20, Becker, Ushijima, and Browning as applied above teach mining

structures, but do not expressly teach "serving as first class objects in a database."

However, Smith teaches serving as first class objects in a database (col. 4, ll. 5-

45).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Becker, Ushijima, and Browning, such that the

mining structures serve as first class objects in a database. The motivation would have

been to facilitate accessing data from a data store, as taught by Smith (col. 1, l. 48 –

col. 2, l. 20).

Conclusion

Applicant's amendment necessitates new grounds of rejection. Accordingly,
THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the
extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within
TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the
shortened statutory period will expire on the date the advisory action is mailed, and any
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
the advisory action. In no event, however, will the statutory period for reply expire later
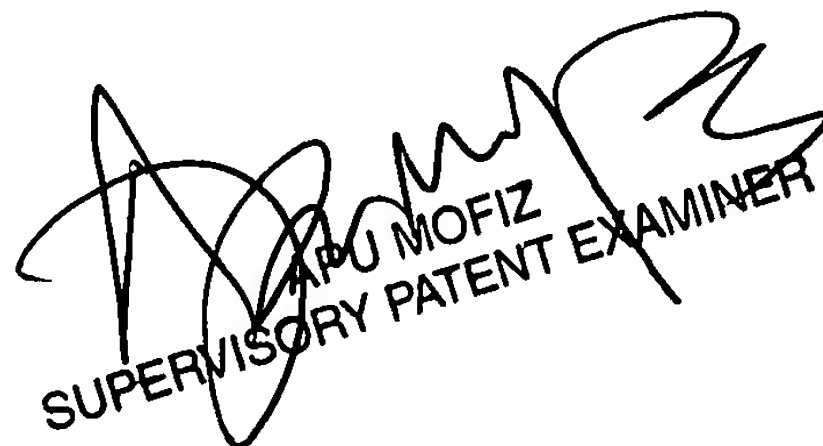than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Charles E. Lu whose telephone number is (571) 272-
8594. The examiner can normally be reached on 8:30 - 5:00; M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Apu Mofiz can be reached at (571) 272-4080. The fax phone number for
the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free).

/CL/
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8/27/2007